National Institute of Environmental Health Sciences

Potential changes in disease patterns and pharmaceutical use in response to climate change

Author(s): Redshaw CH, Stahl-Timmins WM, Fleming LE, Davidson I, Depledge MH
Year: 2013
Journal: Journal of Toxicology and Environmental Health. Part B, Critical Reviews. 16 (5): 285-320

Abstract:

As climate change alters environmental conditions, the incidence and global patterns of human diseases are changing. These modifications to disease profiles and the effects upon human pharmaceutical usage are discussed. Climate-related environmental changes are associated with a rise in the incidence of chronic diseases already prevalent in the Northern Hemisphere, for example, cardiovascular disease and mental illness, leading to greater use of associated heavily used Western medications. Sufferers of respiratory diseases may exhibit exacerbated symptoms due to altered environmental conditions (e.g., pollen). Respiratory, water-borne, and food-borne toxicants and infections, including those that are vector borne, may become more common in Western countries, central and eastern Asia, and across North America. As new disease threats emerge, substantially higher pharmaceutical use appears inevitable, especially of pharmaceuticals not commonly employed at present (e.g., antiprotozoals). The use of medications for the treatment of general symptoms (e.g., analgesics) will also rise. These developments need to be viewed in the context of other major environmental changes (e.g., industrial chemical pollution, biodiversity loss, reduced water and food security) as well as marked shifts in human demographics, including aging of the population. To identify, prevent, mitigate, and adapt to potential threats, one needs to be aware of the major factors underlying changes in the use of pharmaceuticals and their subsequent release, deliberately or unintentionally, into the environment. This review explores the likely consequences of climate change upon the use of medical pharmaceuticals in the Northern Hemisphere.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3756629

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Temperature

Extreme Weather Event: Flooding

Temperature: Extreme Cold, Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease, Other Health Impact

Infectious Disease: Foodborne/Waterborne Disease, Vectorborne Disease

Foodborne/Waterborne Disease: Cholera, Cryptosporidiosis, E. coli, Salmonellosis, Schistosomiasis, Shigellosis, Vibrioses

Foodborne/Waterborne Disease (other): viral Hepatitis A

Vectorborne Disease: Flea-borne Disease, Fly-borne Disease, Mosquito-borne Disease, Tick-borne Disease

Flea-borne Disease: Plague

Fly-borne Disease: Leishmaniasis, Trypanosomiasis

Mosquito-borne Disease: Chikungunya, Dengue, Malaria, Ross River Virus, Viral Encephalitis, West Nile Virus, Yellow Fever, Other Mosquito-borne Disease

Mosquito-borne Disease (other): Usutu virus

Tick-borne Disease: Lyme Disease, Tick-borne Encephalitis

Other Health Impact: Soil-borne diseases

Population of Concern: A focus of content

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified